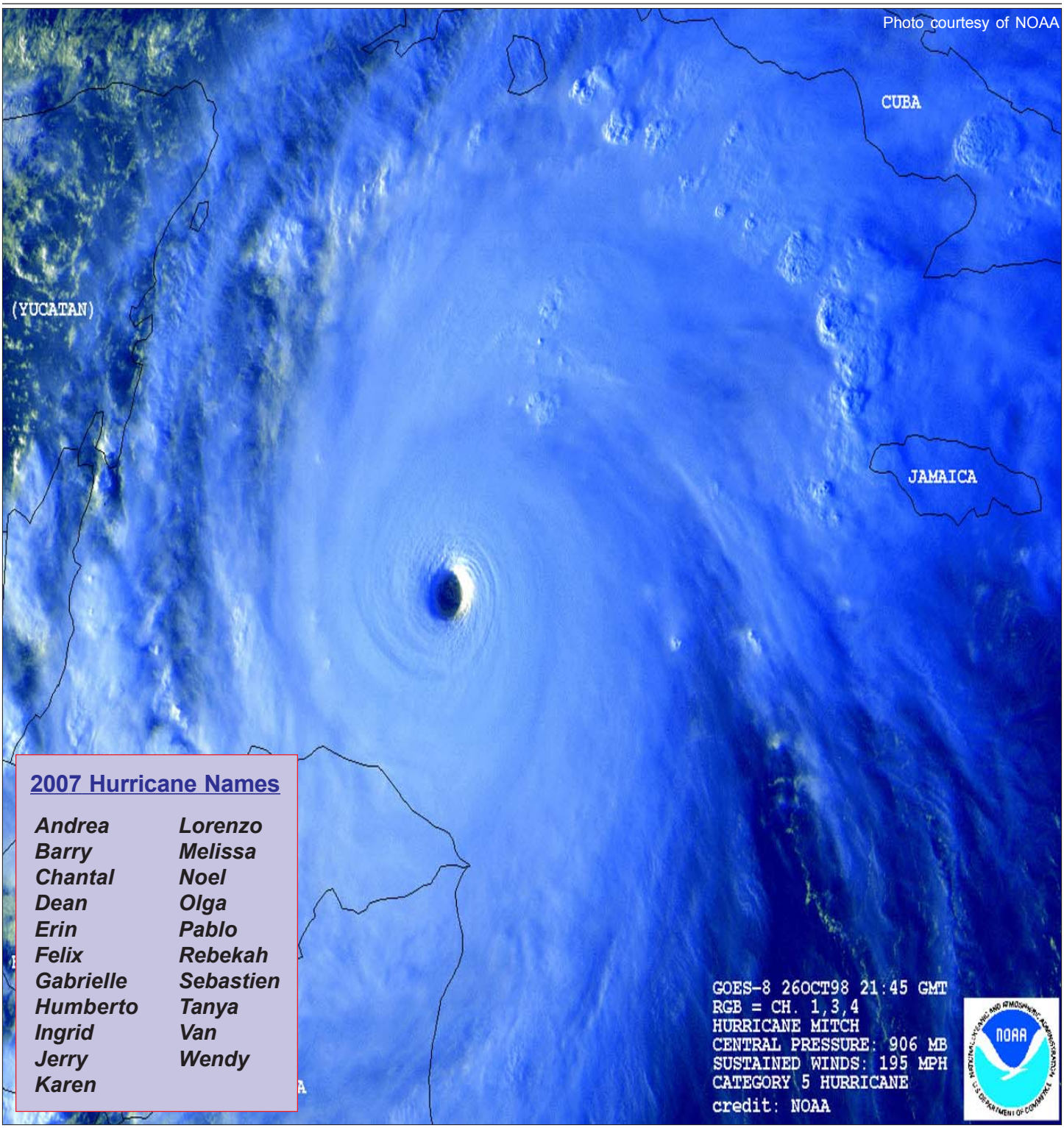
2007 Hurricane and Disaster Guide

Storm Watch

June 1 - November 30, 2007



2007 Hurricane Names

Andrea	*Lorenzo*
Barry	*Melissa*
Chantal	*Noel*
Dean	*Olga*
Erin	*Pablo*
Felix	*Rebekah*
Gabrielle	*Sebastien*
Humberto	*Tanya*
Ingrid	*Van*
Jerry	*Wendy*
Karen	

Forecaster predicts 5 major hurricanes for '07

By Dan Elliott, Associated Press

The 2007 Atlantic hurricane season should be "very active," with nine hurricanes and a good chance that at least one major hurricane will hit the U.S. coast, a top researcher said today.

Forecaster William Gray said he expects 17 named storms in all this year, five of them major hurricanes with sustained winds of 111 mph or greater. The probability of a major hurricane making landfall on the U.S. coast this year: 74 percent, compared with the average of 52 percent over the past century, he said.

Last year, Gray's forecast and government forecasts were higher than what the Atlantic hurricane season produced.

There were 10 named Atlantic storms in 2006 and five hurricanes, two of them major, in what was considered a "near normal" season. None of those hurricanes hit the U.S. Atlantic coast — only the 11th time that has occurred since 1945. The National Hurricane Center in Miami originally reported nine storms, but upgraded one storm after a postseason review.

Gray's research team at Colorado State University said an unexpected late El Nino contributed to the calmer season last year. El Nino — a warming in the Pacific Ocean — has far-reaching effects that include changing wind patterns in the eastern Atlantic, which can disrupt the formation of hurricanes there.

A weak to moderate El Nino occurred in December and January but dissipated rapidly, said Phil Klotzbach, a member of Gray's team.

"Conditions this year are likely to be more conducive to hurricanes," Klotzbach said today. In the absence of El Nino, "winds aren't tearing the storm systems apart."

The team's forecasts are based on global oceanic and atmospheric conditions.

Klotzbach advised coastal residents along the Atlantic and Gulf of Mexico to have hurricane plans and preparedness kits in place, but he added, "You can't let the possibility of a hurricane coming ruin your summer."

Photo by MC1 Bob Lamb

Hurricane Earnesto brushes past Guantanamo Bay in September, 2006 dumping heaving rain and windry condtion in the process.

The Atlantic hurricane season, which runs from June 1 to Nov. 30, averages 9.6 named storms, 5.9 hurricanes and 2.3 intense hurricanes per year.

The devastating 2005 season set a record with 28 named storms, 15 of them hurricanes. Four of those hurricanes hit the U.S. coast, the worst among them Katrina, which devastated New Orleans and leveled parts of the Gulf Coast region.

Gray has spent more than 40 years in tropical weather research. He heads the Tropical Meteorology Project at Colorado State.

Federal government forecasters plan to release their prediction in late May.

Emergency info broadcast on FM 103.1

Naval Media Center (NMC) Detachment's FM 103.1 is Guantanamo Bay's primary emergency broadcast station or EBS. The detachment and its radio transmitters have emergency auxiliary power which allow uninterrupted broadcast capability in the event of storm-related power outages.

Radio and television broadcasts are effective ways to communicate with large groups of people during weather emergencies because of both the speed and efficiency of transmissions.

Weather personnel provide the NMC with weather reports and hurricane conditions set by the base commander. Station personnel then pass that information on to the community within seconds, if necessary.

In a severe storm, the radio station stays on the air as long as possible to pass on as much information to the community as it can, as required by the base commander. So, make sure you have a portable radio and plenty of batteries.

During a hurricane, the radio becomes more than a source of information. Listeners can tune in and find out exactly where the hurricane is, what it's doing. They can even track it themselves using a hurricane tracking chart.

Should NMC lose its primary FM signal, emergency information will be broadcast on AM 1340.

Is Global Warming responsible for the large upswing in US hurricane landfalls?

Editorial provided by Department of Atmospheric Science, Colorado State University

The U.S. landfall of major hurricanes Dennis, Katrina, Rita and Wilma in 2005 and the four Florida landfalling hurricanes of 2004 (Charley, Frances, Ivan and Jeanne) raised questions about the possible role that global warming played in these two unusually destructive seasons.

The global warming arguments have been given much attention by many media references to recent papers claiming to show such a linkage. Despite the global warming of the sea surface that has taken place over the last 3 decades, the global numbers of hurricanes and their intensity have not shown increases in recent years except for the Atlantic (Klotzbach 2006).

The Atlantic has seen a very large increase in major hurricanes during the 12-year period of 1995-2006 (average 3.9 per year) in comparison to the prior 25-year period of 1970-1994 (average 1.5 per year). This large increase in Atlantic major hurricanes is primarily a result of the multi-decadal increase in the Atlantic Ocean thermohaline circulation (THC) that is not directly related to global temperature increase. Changes in ocean salinity are believed to be the driving mechanism. These multi-decadal changes have also been termed the Atlantic Multidecadal Oscillation (AMO).

Although global surface temperatures have increased over the last century and over the last 30 years, there is no reliable data available to indicate increased hurricane frequency or intensity in any of the globe's seven tropical cyclone basins. Meteorologists who study tropical cyclones have no valid physical theory as to why hurricane frequency or intensity would necessarily be altered significantly by small

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Know your shelter station

Deer Point housing residents to BOQ.
Radio Point residents to Youth Center.
Paola Point residents to Youth Center.
Marine Site residents to Elementary School gym.
Marina Point residents to Elementary School gym
Hibiscus Hollow residents to Gold Hill Towers.
Tierra Kay residents to High School gym, the base gym, or the bowling alley.

Keep a stocked hurricane shelter basket nearby

People reporting to base shelters need to bring individual hurricane baskets.

These baskets should contain the following items:

- ☐ 3-day supply of ready-to-eat food (non-perishable)
- ☐ 3-day supply of drinking water
- ☐ Disposable plates, cups, napkins, knives, forks and spoons
- ☐ Manual can-opener
- ☐ Portable cooler
- ☐ Change of clothing
- ☐ Personal toiletries, including disposable razor (for men), toothbrush, toothpaste, soap
- ☐ Moist towelettes or baby wipes
- ☐ Towel and washcloth
- ☐ Blanket or sleeping bag for each person (cots provided)
- ☐ Battery-operated portable radio
- ☐ Flashlight, extra batteries
- ☐ Personal first aid kit
- ☐ Prescription medication
- ☐ Books, cards, games

The following are **not allowed** into any of the base shelters:

— Pets
— Alcoholic beverages of any kind
— Large toys
— Non-essential personal belongings
— Cooking utensils or equipment

Smoking is prohibited in all shelters. Shelter wardens will determine if conditions permit smoking outside.


ATLANTIC HURRICANE
TRACKING CHART
NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
MERCATOR PROJECTION
The scale is accurate along the equator.
Elsewhere on the map, scale increases toward poles.
500 mi
500 km
N
CANADA
NEWFOUNDLAND
NOVA SCOTIA
NEW BRUNSWICK
MAINE
VT
NH
MASS.
CONN.
RI
NEW YORK
PA
NJ
MD
DE
WV
VIRGINIA
OH
KY
NC
SC
GEORGIA
AL
MS
LA
TEXAS
UNITED STATES
Portland
Boston
New York
Atlantic City
Ocean City
Washington D.C.
Norfolk
Cape Hatteras
Wilmington
Charleston
Savannah
Jacksonville
Daytona Beach
Cape Canaveral
Palm Beach
Ft. Lauderdale
Miami
Tampa
Fort Myers
Key West
Tallahassee
Apalachicola
Pensacola
Mobile
Gulf Port
Baton Rouge
New Orleans
Lake Charles
Galveston
Corpus Christi
Brownsville
Tampico
Veracruz
Campeche
Merida
YUCATAN PENINSULA
Cozumel
Belize City
BELIZE
Puerto Cortes
HONDURAS
GUATE-MALA
EL SALVADOR
NICARAGUA
COSTA RICA
PANAMA
Cabo Gracias a Dios
San Andres
Balboa
MEXICO
BERMUDA
BAHAMAS
Nassau
TURKS & CAICOS IS.
CUBA
Camaguey
Havana
Guantanamo
CAYMAN IS.
JAMAICA
Kingston
HAITI
Port-au-Prince
DOMINICAN REPUBLIC
Santo Domingo
San Juan
PUERTO RICO (U.S.)
U.S. VIRGIN ISLANDS
BRITISH VIRGIN IS.
ANGUILLA
ST. MARTIN
ST. BARTHELEMY
ST. KITTS & NEVIS
ANTIGUA
GUADELOUPE
DOMINICA
MARTINIQUE
ST. LUCIA
ST. VINCENT & THE GRENADINES
BARBADOS
GRENADA
TOBAGO
TRINIDAD
ARUBA
CURACAO
VENEZUELA
GUYANA
COLOMBIA
100°
95°
90°
85°
80°
75°
70°
65°
60°
55°
50°
45°
40°
35°
30°
25°
20°
15°
10°

Storm surge from Hurricane Dennis in July 2005 caused significant damage at Windmill Beach.

The Saffir-Simpson Hurricane Scale

The Saffir-Simpson Hurricane Scale is a 1-5 rating based on a hurricane's present intensity. This is used to give an estimate of the potential property damage and flooding expected along the coast from a hurricane landfall. Wind speed is the determining factor in the scale, as storm surge values are highly dependent on the slope of the continental shelf in the landfall region.

— **Category 1 Hurricane:** Winds 74-95 mph. No real damage to buildings. Damage to unanchored mobile homes. Some damage to poorly constructed signs. Also, some coastal flooding and minor pier damage. Examples: Irene 1999 and Allison 1995.

— **Category 2 Hurricane:** Winds 96-110 mph. Some damage to building roofs, doors and windows. Considerable damage to mobile homes. Flooding damages piers and small craft in unprotected moorings may break their moorings. Some trees blown down. Examples: Bonnie and Georges in 1998, and Gloria in 1985.

— **Category 3 Hurricane:** Winds 111-130 mph. Some structural damage to small residences and utility buildings. Large trees blown down. Mobile homes and poorly built signs destroyed. Flooding near the coast destroys smaller structures with larger structures damaged by floating debris. Terrain may be flooded well inland. Examples: Keith in 2000, Fran in 1996, Opal in 1995, Alicia in 1983 and Betsy in 1965.

— **Category 4 Hurricane:** Winds 131-155 mph. More extensive curtain-wall failures with some complete roof structure failure on small residences. Major erosion of beach areas. Terrain may be flooded well inland. Examples: Hugo in 1989 and Donna in 1960.

— **Category 5 Hurricane:** Winds 156 mph and up. Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. Flooding causes major damage to lower floors of all structures near the shoreline. Massive evacuation of residential areas may be required. Examples: Katrina in 2005, Andrew in 1992, Camille in 1969 and the unnamed Labor Day storm in 1935.

Courtesy of the National Hurricane Center

Guantanamo Bay weather conditions

The following are the weather conditions of readiness established for Naval Station Guantanamo Bay.

All information on changing conditions will be broadcast on radio station FM 103.1, the base's emergency broadcast station (EBS), and other information outlets.

Readiness Condition V

Set at the beginning of hurricane season, June 1 through Nov. 30.

Readiness Condition IV

Set when hurricane force winds are possible within 72 hours.

Readiness Condition III

Set when a hurricane is within 48 hours of the base. Check nonperishable food supplies, fill water containers and secure all loose objects.

Readiness Condition II

Set when a hurricane moves within 24 hours of the station. All emergency personnel report for duty and all base leave and liberty is cancelled. All residents should stay tuned to the EBS for further instructions. Outdoor furniture, trash cans and other moveable objects should be moved inside or securely tied. Water cans should be cleaned in preparation for filling with water.

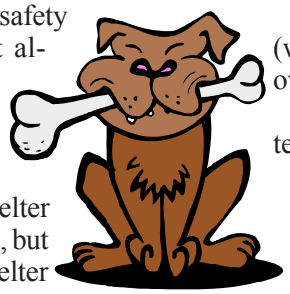
Readiness Condition I

Set when the hurricane is within 12 hours of the base. The base siren will sound a three-minute series of wails to indicate "take cover." At this time, the ferry will be secured and all privately owned vehicle traffic will be secured. Also, all non-essential personnel should proceed to hurricane shelters or hurricane-resistant housing.

After the hurricane has cleared the area, firefighting, rescue and security teams will deploy to assess damage. All non-essential personnel should remain in their shelters until a verbal "all clear" is passed.

When the "all clear" is passed, all military and civilian employees should leave their shelters and report to work centers for muster and further instructions. All residents will be allowed to return to their quarters.

Ensure pets are kept safe during weather emergencies



Due to public health and safety concerns, animals are not allowed in base emergency shelters.

The Veterinary Treatment Facility (VTF) does not maintain an animal shelter during weather emergencies, but will provide temporary shelter for pets that require 24-hour care. Arrangements for this service must be made in advance of a storm. Pet owners must receive written-authorization to leave their pets at the VTF. The VTF will not accept pets on a drop-off basis.

All pets being taken to the VTF should be in a certified carrier (one pet per carrier), clearly labeled with the pet's name, the owner's name, and a contact phone number. Each pet should have its own hurricane basket. The VTF will not supply these items.

A pet hurricane basket should contain the following items:

— Collar
— Leash (for dogs)
— Food for three days (1-5 lb. bag)
— Water for three days
— Food and water bowls (weighted, not easily knocked over)
— 20 lb. bag of scoopable litter and litter box (for cats)
— Medications
— One towel or blanket
— Familiar toys

All pets taken to the VTF must be picked up within 12 hours of the hurricane passing and the "all clear.'

Pet owners who live in hurricane resistant housing should prepare an area in the house for their pets that is away from windows (utility room, bathroom). Make sure the area is off the ground floor in case of flooding. Never leave a pet outside during a hurricane.

Ensure the pet(s) has dry food (so it doesn't spoil, and plenty of water (partially fill bathtub, or leave in weighted containers that won't tip over). All pets should be separated, even animals that are usually friendly may become scared and fight with other animals it is segregated with.

FMI, call the VTF at 2101 or 2212.

Family Emergency Kit Checklist

- ☐ **One-week supply of non-perishable foods per person.**
- ☐ **One-week supply of drinking water per person.**
- ☐ **Fill plastic jugs with drinking water upon receiving warning of imminent danger.**
- ☐ **Maintain a supply of disposable eating and drinking utensils.**
- ☐ **Bottle and can openers.**
- ☐ **Special diet and baby foods.**
- ☐ **Supply of plastic bags.**
- ☐ **Prescription and non-prescription. Warning: Many medications have short shelf-lives. Do not place them in the emergency kit until the time of the emergency.**
- ☐ **Copy of all prescriptions.**
- ☐ **Prosthetic devices (eyeglasses, hearing aids, etc.)**
- ☐ **First aid kit**
- ☐ **Emergency medical alert tags and cards**
- ☐ **Shot records**
- ☐ **Pocket knife**
- ☐ **Shovel, ax, crowbar, hammer/nails**
- ☐ **Hand saw, pliers, tape, compass**
- ☐ **Social Security card**
- ☐ **Passport ***
- ☐ **Driver's License**
- ☐ **Deeds ***
- ☐ **Insurance policies ***
- ☐ **Stocks and Bonds ***
- ☐ **Will ***
- ☐ **Savings and checking account books or account numbers**
- ☐ **Credit cards and/or account numbers**
- ☐ **Currency**
- ☐ **Inventory of valuable household goods ***
- ☐ **List of important phone numbers (insurance agents, banks, family, etc.)**
- ☐ **Birth Certificates ***
- ☐ **Immunization record**

** Place in a waterproof secure box or a safe deposit box*

- ☐ **Battery-operated radio and extra batteries**
- ☐ **Flashlight and batteries**
- ☐ **Lantern and fuel**
- ☐ **Candles and matches**

Is Global Warming responsible...

Continued from page 3

amounts (< ±1°C) of global mean temperature change.

The most reliable long-period hurricane records we have are the measurements of US landfalling tropical cyclones since 1900 (Table 8). Although global mean ocean and Atlantic surface temperatures have increased by about 0.4°C between these two 50-year periods (1900-1949 compared with 1956-2005), the frequency of US landfall numbers actually shows a slight downward trend for the later period. If we chose to make a similar comparison between US landfall from the earlier 30-year period of 1900-1929 when global mean surface temperatures were estimated to be about 0.5°C colder than they were during the 30-year period from 1976-2005, we find exactly the same US hurricane landfall numbers (54 to 54) and major hurricane landfall numbers (21 to 21).

We should not read too much into the two hurricane seasons of 2004-2005. The activity of these two years was unusual but well within natural bounds of hurricane variation. In addition, following the two very active seasons of 2004 and 2005, 2006 had slightly below-average activity, and no hurricanes made landfall in the United States. This was only the 11th year since 1945 (67 total years) that the United States had no landfalling hurricanes.

What made the 2004-2005 seasons so unusually destructive was not the high frequency of major hurricanes but the high percentage of major hurricanes which were steered over the US coastline. The major US hurricane landfall events of 2004-2005 were primarily a result of the favorable, upper-air steering currents present during these two years.

CNIC prepared for upcoming season

Hurricane Season, which begins on June 1 and runs until Nov. 30, is once again approaching and the need for accountability and safety of personnel is a Commander, Navy Installations Command (CNIC) top priority.

CNIC joined together with Fleet Forces Command (FFC) in Norfolk and participated in Hurricane Exercise 07 (HURREX 07).

"HURREX 07 was a full-spectrum event flexing our installation and family disaster preparedness," said Capt. Ray Pietrzak, CNIC disaster preparedness officer.

The HURREX phases consisted of four artificially constructed tropical systems that developed and intensified to hurricane strengths, threatening the Caribbean, East Coast and Gulf Coast regions.

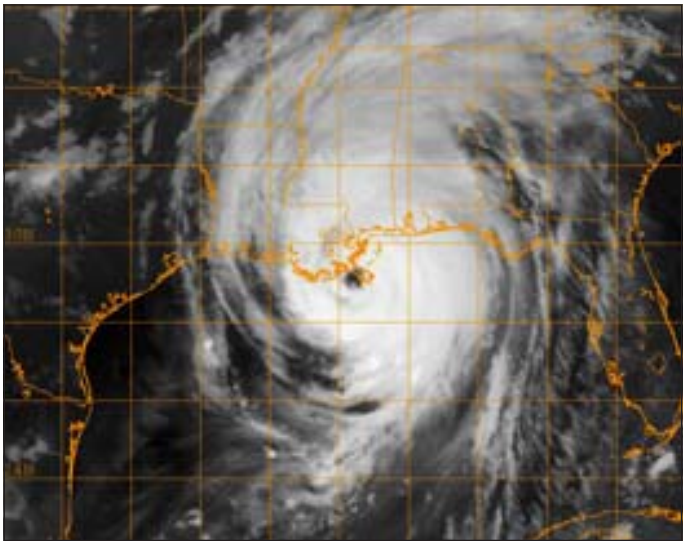
"There was several instances for the requirement to muster and account for all Navy family members in the declared affected areas as three simulated hurricanes will be generated and moved through the entire Eastern Seaboard," said Pietrzak.

The objective of HURREX 07 was to provide, "a focused training event to afloat and shore-based commands with hurricane threat scenarios for use in exercising sortie, evacuation, emergency preparedness, personnel accountability, and recovery and consequence management procedures," according to an FFC directive announcing the exercise.

A goal of 100 percent accountability for all assigned personnel was declared to affected areas, according to Pietrzak.

"The Disaster Preparedness/ Personnel Accountability Conference was brought [together] along with emergency managers and personnel accountability representatives from Navy regions, installations, and other supported and supporting commands to obtain the latest information and guidance with regard to Navy family readiness topics," said Pietrzak prior to the conference. "We all must be ready to act and respond smartly."

There are three main themes to remember for family emergency preparedness, added Pietrzak. "Be informed, have a plan and make a kit."



Gulf of Mexico (Aug. 29, 2005), satellite image provided by the U.S. Naval Research Laboratory, Monterey, Calif., showing the status of Hurricane Katrina.

The history of hurricane names

For several hundred years many hurricanes in the West Indies were named after the particular saint's day on which the hurricane occurred.

Ivan R. Tannehill describes in his book "Hurricanes" the major tropical storms of recorded history and mentions many hurricanes named after saints. For example, there was "Hurricane Santa Ana" which struck Puerto Rico with exceptional violence on July 26, 1825, and "San Felipe" (the first) and "San Felipe" (the second) which hit Puerto Rico on September 13 in both 1876 and 1928.

Tannehill also tells of Clement Wragge, an Australian meteorologist who began giving women's names to tropical storms before the end of the l9th century. An early example of the use of a woman's name for a storm was in the novel "Storm" by George R . Stewart, published by Random House in 1941, and since filmed by Walt Disney. During World War II this practice became widespread in weather map discussions among forecasters, especially Air Force and Navy meteorologists who plotted the movements of storms over the wide expanses of the Pacific Ocean.

Some low-lying areas of the base are subject to flooding in times of high winds and rains generated by tropical storms and hurricanes.

In 1953, the United States abandoned as confusing a two-year old plan to name storms by a phonetic alphabet (Able, Baker, Charlie) when a new, international phonetic alphabet was introduced. That year, this Nation's weather services began using female names for storms.

The practice of naming hurricanes solely after women came to an end in 1978 when men's and women's names were included in the Eastern North Pacific storm lists. In 1979, male and female names were included in lists for the Atlantic and Gulf of Mexico.

Some housing are considered non-hurricane resistant; residents should report to shelters

Shelter space is provided for all base residents residing in non-hurricane resistant quarters.

Personnel residing in non-hurricane resistant housing are encouraged to seek shelter with personnel residing in hurricane resistant quarters. Any resident utilizing this option must inform the NAVSTA Housing Officer in writing.

The written notification must specify which non-resistant housing will be jointly occupied. The resident of that unit must sign the notification.

The following areas have been designated non-hurricane resistant quarters:

— Paola Point
— Radio Point
— Deer Point
— Marine Site
— Marina Point
— Hibiscus Hollow
— Radio Range
— Tierra Kay

Personnel residing in non-hurricane resistant housing, who have not made arrangements to stay with personnel living in hurricane-resistant housing, should report to the following shelter assignments at the designated time:

— Deer Point housing residents to BOQ

— Radio Point residents to Youth Center

— Paola Point residents to Youth Center

— Marine Site residents to Elementary School gym

— Marina Point residents to Elementary School gym

— Hibiscus Hollow residents to Gold Hill Towers

— Tierra Kay residents to High School gym, the base gym, or the bowling alley.


Photo by MC1 Igo Wordu

This house in Poala Point is a typical example of some of the structures that are not hurricane resistant.

Notice when the siren sounds!

Checking the central alarm system at Naval Station Guantanamo Bay, Cuba happens every Wednesday at noon. A 'Steady Siren', which means "All Clear, Resume normal activities" can be heard from the entire 45 square miles of GTMO and sometimes beyond.

There are five distinct alarms that could be sounded out at any time to warn of treacherous weather, hazardous conditions or immediate danger and their aftermaths.

Base sirens at Naval Station and their definitions are as followed:

1. General Alert — Turn on TV/Radio for additional information. This tone is intended as a non-emergency alert. As an example it will be sounded when hurricane readiness conditions are upgraded or when severe thunderstorms are expected shortly.

2. Alternate Wail — Take cover – Return to quarters and stay put until further notice (non-immediate threat). This tone will be used when base requires all non-essential personnel to return to quarters and stay there until all clear is sounded.

3. Pulse Wail — Take Cover – Immediate threat inbound – Return to nearest secure location and take cover. This alert will be used when immediate danger threatens, such as a tornado or in-bound aircraft of unknown origin. Find nearest cover and stay there until all clear is sounded. Dangerous conditions are possible in 15 min. or less.

4. Pulse Steady — Recovery Disaster Teams report to duty. All non-essential personnel remain in quarters. This alert is used to alert various emergency personnel such as PWD recovery teams and fire department personnel that it is safe to investigate for any injury or damage to base facilities.

5. Steady — All clear. Resume normal activities.

Alarm Testing — The base alarm system is tested each Wednesday at noon. The Navy Base Watch Officer (NBWO) will sound the alarm in accordance with this instruction.